

# TELEMARKETING TERM DEPOSIT PREDICTION



# Afdhal Putra

**STUDENT**

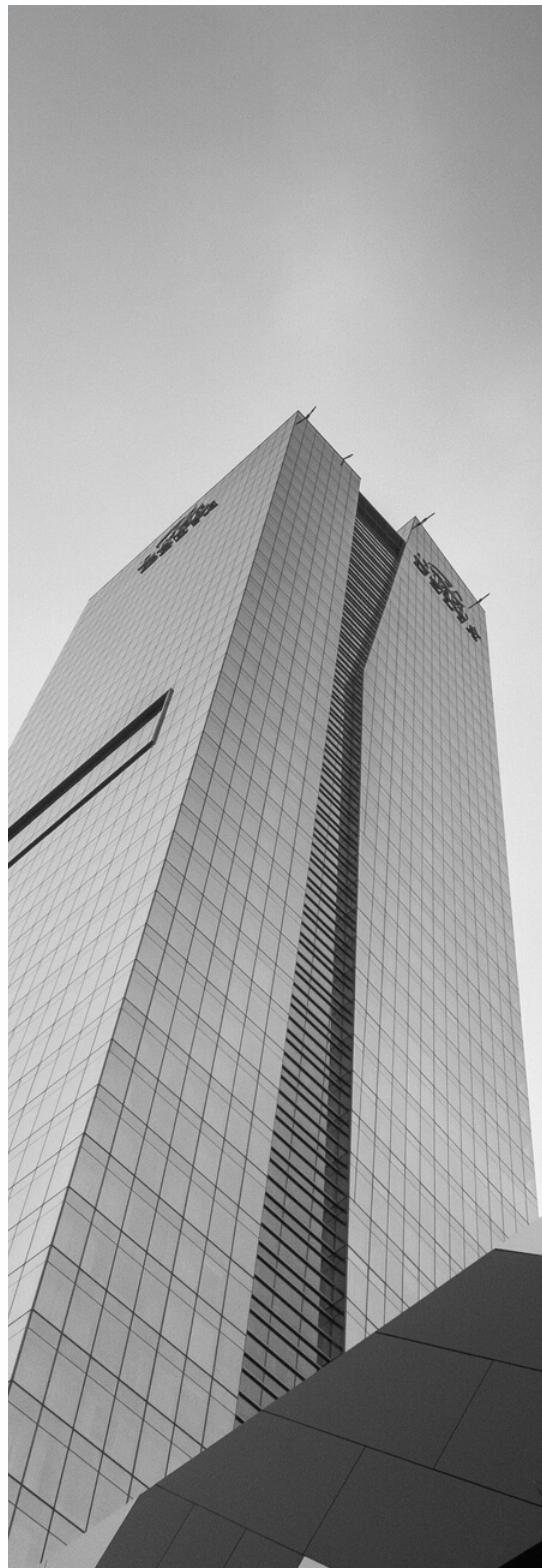
## Education & Work

Purwadhika Job Connector data Science Jakarta

<--- that's not me tho

# Term Deposit

Term deposits are a major source of income for a bank. The bank has various outreach plans to sell term deposits to their customers such as email marketing, advertisements, telephonic marketing, and digital marketing. Telephonic marketing campaigns still remain one of the most effective way to reach out to people.



# THE PROBLEM?

Telemarketing require huge investment!

Hence, it is crucial to identify the customers most likely to convert beforehand so that they can be specifically targeted via call.

# THE DATA

THE DATA IS RELATED TO DIRECT MARKETING CAMPAIGNS (PHONE CALLS) OF A PORTUGUESE BANKING INSTITUTION. THE CLASSIFICATION GOAL IS TO PREDICT IF THE CLIENT WILL SUBSCRIBE TO A TERM DEPOSIT

Column	d_type	unique_sample	n_uniques
0	age	int64	[58, 44, 33, 47, 35]
1	job	object	[management, technician, entrepreneur, blue-co...]
2	marital	object	[married, single, divorced]
3	education	object	[tertiary, secondary, unknown, primary]
4	default	object	[no, yes]
5	balance	int64	[2143, 29, 2, 1506, 1]
6	housing	object	[yes, no]
7	loan	object	[no, yes]
8	contact	object	[unknown, cellular, telephone]
9	day	int64	[5, 6, 7, 8, 9]
10	month	object	[may, jun, jul, aug, oct]
11	duration	int64	[261, 151, 76, 92, 198]
12	campaign	int64	[1, 2, 3, 5, 4]
13	pdays	int64	[-1, 151, 166, 91, 86]
14	previous	int64	[0, 3, 1, 4, 2]
15	poutcome	object	[unknown, failure, other, success]
16	y	object	[no, yes]

# Machine Learning Module

## SUPERVISED: CLASSIFICATION

### **Logistic Regression**

Used to model the probability of a certain class or event existing such as pass/fail, win/lose, alive/dead or healthy/sick.

### **Decision Tree Classifier**

Organized a series of test questions and conditions in a tree structure

### **Random Forest Classifier**

construct a multitude of decision trees and outputting the class that is the mode of the classes (classification) or mean/average prediction (regression) of the individual trees

# Modelling Steps

**Exploratory Data Analysis**

**Data Cleaning**

**Data Splitting**

**Model Training**

**Finding Best Model**

**Fitting Model to Data Set**



**Best Model**

**Decission  
Tree Classifier**

**with 45% score**

# Thank You!

## List of References

[HTTPS://WWW.KAGGLE.COM/PRAKHARRATHI25/BANKING-DATASET-MARKETING-TARGETS](https://www.kaggle.com/pRAKHARRATHI25/banking-dataset-marketing-targets)